Machine Roomless Elevator

SOLON™

Machine Roomless Elevator

SIGMA

The Design Center

The Design Center in Korea provides perfect customer satisfaction by meeting any customer needs.

· Established in 1995

SIGMA in the world

SIGMA has been serving you in more than 70 countries around the world for over 35 years.

· Accumulated Sales(as of 2007)
- over 160,000 units

D CENTER SIGN
OTIS · CREATIVE · SPACE

Architectural building design | Space savings | Construction cost savings | Energy savings

Customer Benefits

The implementation of state-of-the-art technology influences the values of a building by changing expectations and realities.

SIGMA is committed to the ongoing pursuit of this objective, especially in creating the pride of a new hassle-free building, with safety, reliability, ride comfort and universal design.

01 **Architectural building design**

SIGMA`s machine roomless (MRL) elevator allows the building to be free from unsightly construction on the roof and provides more flexibility in building design.

02 **Space savings**

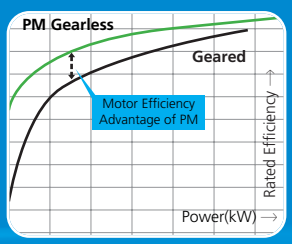
The structural design improves the net space of the car in any given hoistway and provides more rental areas within the building.

03 **Construction cost savings**

Our MRL solution allows the owner to save on construction work and materials.
It also leads to the reduction of the total building cost.

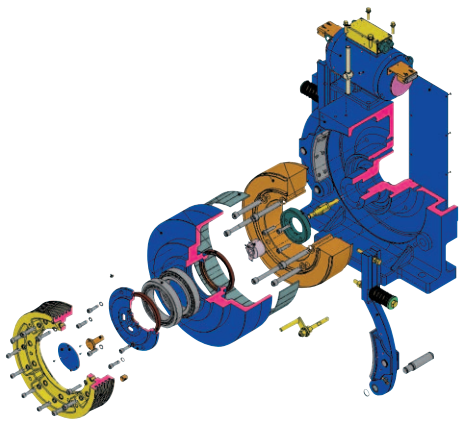
04 **Energy savings**

The compact motor design not only uses a lower initial electricity load but it also consumes less energy than a conventional geared system.



Customer-friendly

Customer Benefits



SIGMA Elevator company's number one priority is safety. Our basic spirit to ensure safety is through control technology such as **'back-up solution'**, **'safety drive operation'** and more than 10 other safety devices.

We execute more than **30 kinds of reliability tests**. These intense quality assurance programs make fool-proof products from the design stage.

01

Brake operation

The reliable double drum brake offers excellent brake operation in the downward and upward moving of the elevator without noise and shock.

02

E&I panel

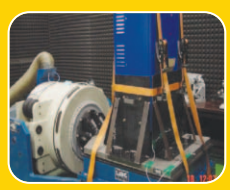
The emergency and inspection (E&I) panel located on the top landing floor provides all of the controls necessary to perform rescue and inspection operations quickly.

03

SIGMA NeT

Through SIGMA NeT, which monitors elevator, escalator and movingwalks by internet-based software, our elevator not only provides a comprehensive and easy-to-use interface but also brings perfect quality to reality.

EMI Test
(Electro Magnetic Interference)



Vibration and Dropping Test

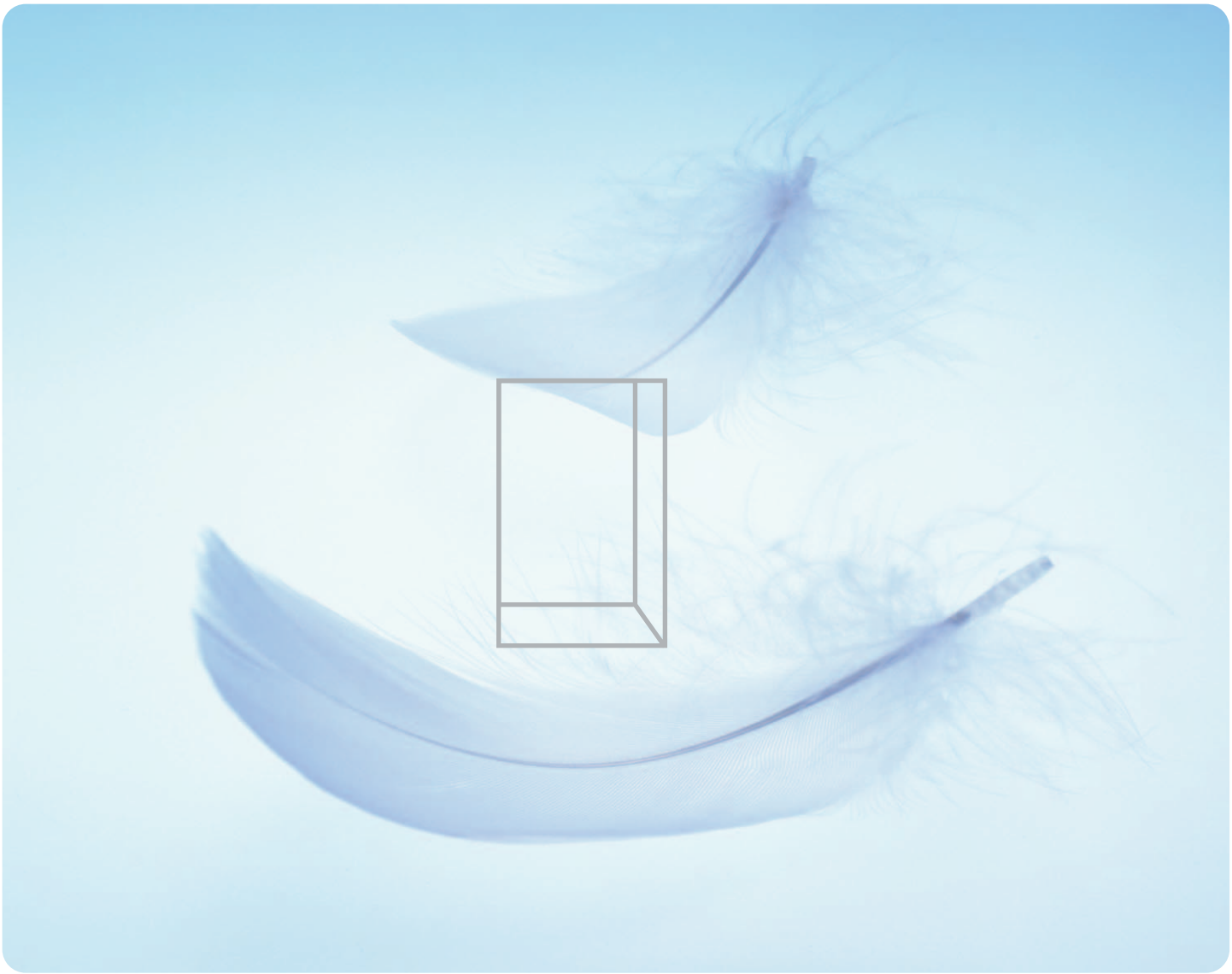
ESD Test
(Electro Static Discharge)

Burst Test

ISO 9001 ISO 14001

Safety and Reliability

PM gearless machine | Sensitivity test | Smooth operation



Customer Benefits

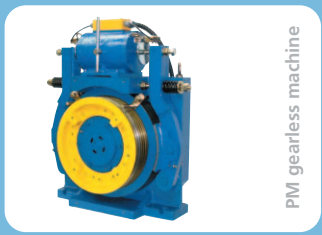
SIGMA provides "**best-in-class**" ride quality on every lift that we install. A high-switching speed of power device in the drive(IGBT) reduces motor noise. Moreover, **a door operator with VVVF control ensures silent door movement**. The result of modern technology allows SIGMA to reduce vibration and noise to a minimum level.

Customers define luxury as a swift, **smooth and silent ride**. Our seamless interface between tenant requirements and elevator performance meets the exact standards and high expectations of customers.

01

PM gearless machine

Highly efficient gearless traction systems with permanent magnet synchronous motor (PMSM) provide safe and stable rides with a minimum level of vibration and noise.



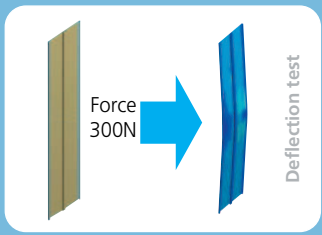
02

Sensitivity test

Customers may experience a robust elevator which has been proven in the door impact test and deflection test in conformity with international standards.

Deflection test

We execute the deflection test with a force of 300N at a right angle to the door and car panel.

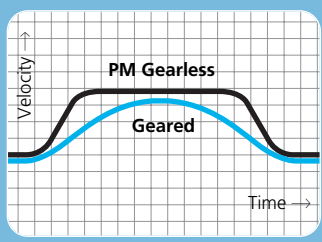


03

Smooth operation

A high-switching speed of power device in the drive (IGBT) and VVVF control ensure a consistently smooth motion profile which results in a comfortable ride.

*VVVF (Variable Voltage Variable Frequency)



Ride comfort

Universal Design

SIGMA Elevator company has a 'Design Center' for creative and innovative product development to meet the various needs of customers.

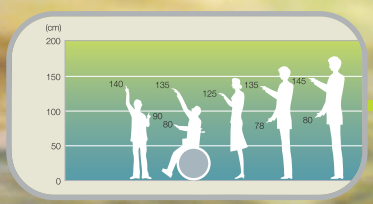
Our newly released ceiling and fixture fully contains brightness and luxury which represent the latest trends.

SIGMA believes there is no boundary in the usage of this elevator. This kind of belief not only enhances the external finish of the elevator, but also enriches the essence of human life.
We proudly recommend everyone to experience our innovative design and wide assortments with all your senses.

Newly designed round buttons
offer an attractive shape with a distinctive feel

Thickness of handrail
provides comfortable rest and stability

OPB with tactile buttons
enables the handicapped to easily recognize items



Fixture installed at the proper height
allows children to ride with freedom

TECHNO MODERN

Specification

Ceiling	•	C-HX2
OPB	•	CBM-22C
Wall	•	STS Hairline Etching (EW2-070)
Door	•	STS Hairline Etching (EH1-070)
Handrail	•	HR-04
Floor	•	Deco Tile (Local)

CONTEMPORARY MODERN

Specification

Ceiling	•	C-HX3
OPB	•	CBM-22C
Wall	•	STS Hairline Etching (EW2-059)
Door	•	STS Hairline Etching (EH1-059)
Handrail	•	HR-04
Floor	•	Deco Tile (Local)

NATURAL MODERN

Specification

Ceiling	•	C-NS1
OPB	•	CBM-22C
Wall	•	STS Hairline Etching (EW2-060)
Door	•	STS Hairline Etching (EH1-060)
Handrail	•	HR-04
Floor	•	Deco Tile (Local)

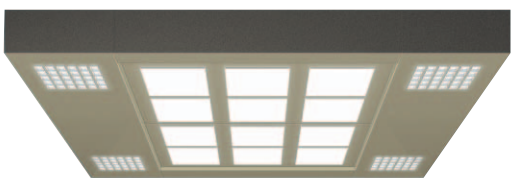
ROYAL MODERN

Specification

Ceiling	•	C-NL2
CPI	•	CID-10
OPB	•	CBM-22
Wall	•	STS Hairline Etching (EW2-064)
Door	•	STS Hairline Etching (EW2-064)
Handrail	•	HR-04
Floor	•	Deco Tile (Local)

ENTRANCE & CEILING

Standards



C-HX2
(Painted steel sheet color No.LGM-922)

C-HX3
(Painted steel sheet color No.LGM-922)

C-NS1
(Painted steel sheet color No.LGM-924+LGM-920)

Our styles empower your riding experience by letting you change your elevator to customize the look of your building. From straight-out comfort to urban styling, SOLON™ appeals with new ventures.

1 Ground floor

Jamb • Wide Tapered Jamb with Transom Panel in STS Hairline
Door • STS Hairline Etching (No. EH1-064)
Sil • Extruded Hard Aluminum
Hall Indicator • HID-A122
Hall Button • HBM-R45

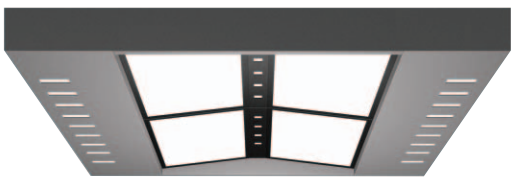
2 Other floor

Jamb • Narrow Jamb in Painted Steel Sheet (No. LGM-922)
Door • Painted Steel Sheet (No. LGM-922)
Sill • Extruded Hard Aluminum
Hall Indicator & Hall Button • VID-M652

3 Top floor

Jamb • Wide Jamb with in STS Hairline
Door • Painted Steel Sheet (No. LGP-934)
Landing Cabinet(Controller + E&I Panel) • STS Hairline
Sill • Extruded Hard Aluminum
Hall Indicator & Hall Button • VID-M652

Luxury options (Additional Prices)



C-NS3
(Painted steel sheet color No.LGM-924+LGM-920)

C-MS3
(Painted steel sheet color No.LGM-946)

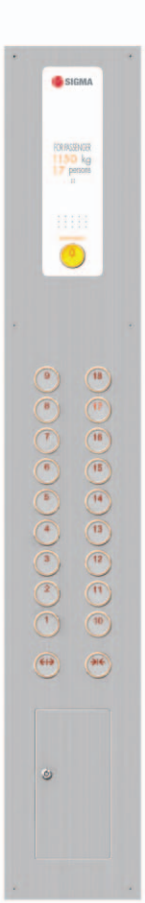
C-NL2
(Painted steel sheet color No.LGM-924+Stainless Mirror)

FIXTURES

Car Operating Board

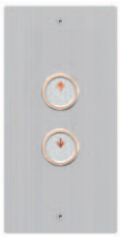
CBM-22C

CBM-13C


CBM-22

CBM-13

Hall Button


HBM-R45

VID-M652T

VID-M652

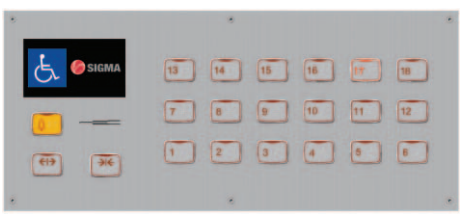
HBM-S43

VID-M632T

VID-M632

Handicapped COP

CBM-44SH


CBM-42SH

HBM-R65

Hall Position Indicator

HID-A122

HID-A132

HID-C132

Car Position Indicator

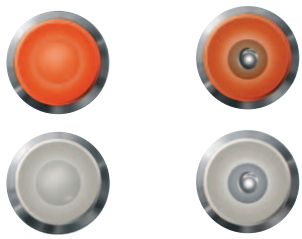
CID-10

CID-12

Handrail

HR-04

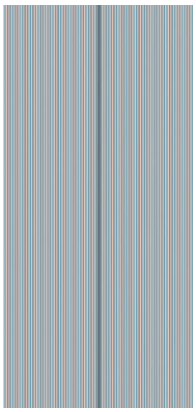
Hall Lantern



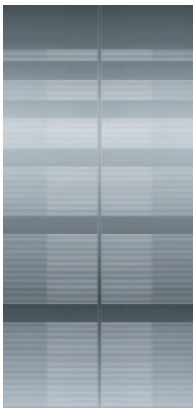
HLV-C08

HLV-C06

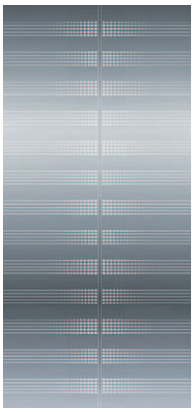
ETCHING PATTERN



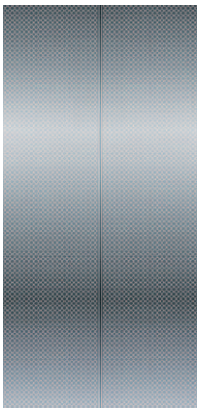
EW2-059
EH1-059



EW2-060
EH1-060



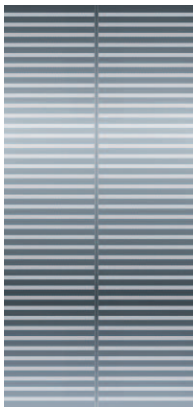
EW2-062
EH1-062



EW2-064
EH1-064

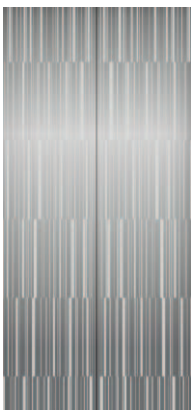
EW2-067
EH1-067

EW2-070
EH1-070



EW2-072
EH1-072

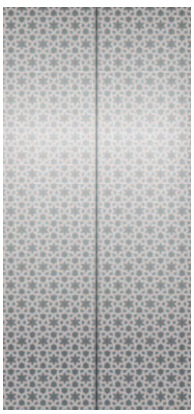
EW2-076
EH1-076



EW2-078
EH1-078

EW2-080
EH1-080

EW2-082
EH1-082



EW2-083
EH1-083

COLORS

• Actual colors may be different from these prints.

OBSERVATION

1 Side View

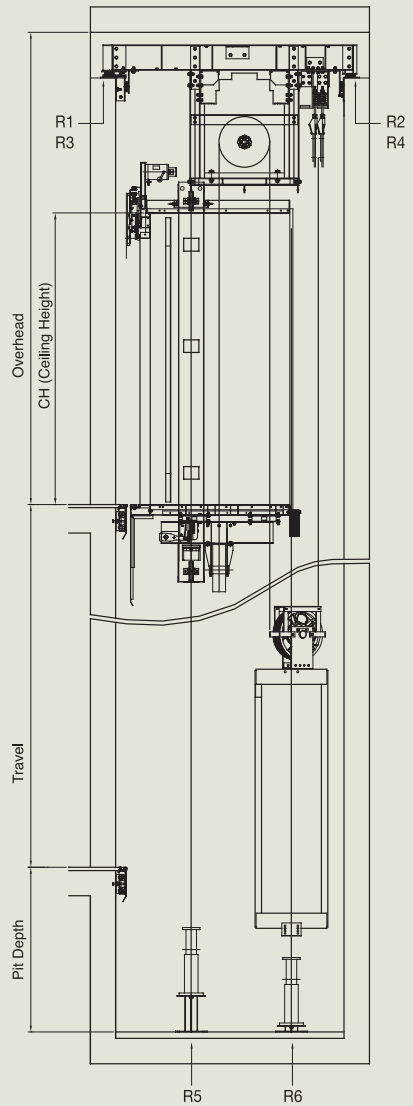
2 Side View

3 Side View

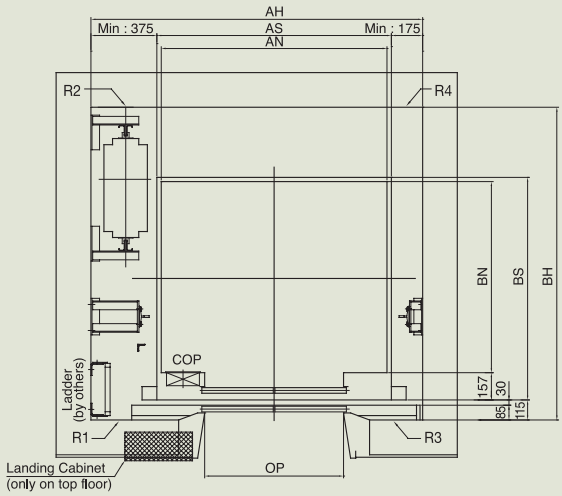
TECHNICAL DATA

Passenger Elevator Layouts

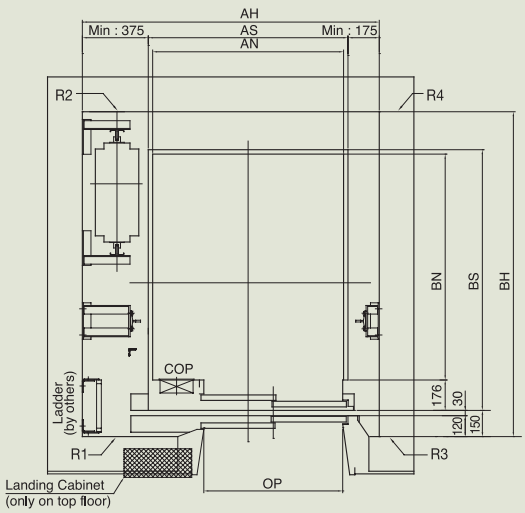
Hoistway Section



Hoistway Plan (Center Opening)



Hoistway Plan (Side Opening)



Overhead Height, Pit Depth

Speed(m/s)	Entrance Height(mm)	Overhead(mm)	Pit Depth(mm)	Type of Buffer
1.0	2100	3750	1150	Poly-Urethane
1.5	2100	3900	1300	Hydraulic (oil)
1.75	2100	3950	1400	Hydraulic (oil)

TECHNICAL DATA

Wide Car

Standard

(Unit: mm)

Speed (m/s)	Capacity		Opening Type	Entrance Opening (mm)	Car Size		Hoistway Size				Top Beam Reaction Load(kg)				Pit Reaction Load(kg)	
					Inside	Outside	Simplex		Duplex							
	Persons	Load (kg)			AN × BN	AS × BS	AH	BH	AH	BH	R1	R2	R3	R4	R5	R6
1.0	6	450	2 Panel Center Opening	700	1150×1080	1200×1262	1750	1800	3650	1800	1480	2875	575	685	5298	4398
	8	550		800	1300×1100	1350×1282	1900	1800	3950	1800	1611	3134	634	756	5819	4719
	9	600		800	1300×1180	1350×1362	1900	1800	3950	1800	1678	3266	664	792	6085	4885
	10	680		800	1350×1280	1400×1462	1950	1850	4050	1850	1781	3529	733	845	6572	5172
	11	750		800	1350×1350	1400×1532	1950	1900	4050	1900	1834	3650	770	867	6805	5305
	13	900		900	1550×1350	1600×1532	2150	1900	4450	1900	2023	4032	859	968	7784	5984
	15	1000		900	1600×1450	1650×1632	2200	2000	4550	2000	2197	4221	918	1029	8269	6269
	17	1150		1000	1800×1450	1850×1632	2400	2000	4950	2000	2401	4617	1012	1135	9289	6989
1.5	6	450		700	1150×1080	1200×1262	1750	1800	3650	1800	1480	2875	575	685	6091	5056
	8	550		800	1300×1100	1350×1282	1900	1800	3950	1800	1611	3134	634	756	6690	5425
	9	600		800	1300×1180	1350×1362	1900	1800	3950	1800	1678	3266	634	792	6996	5616
	10	680		800	1350×1280	1400×1462	1950	1850	4050	1850	1781	3529	733	845	7555	5946
	11	750		800	1350×1350	1400×1532	1950	1900	4050	1900	1834	3650	770	867	7823	6098
	13	900		900	1550×1350	1600×1532	2150	1900	4450	1900	2023	4032	859	968	8949	6880
	15	1000		900	1600×1450	1650×1632	2200	2000	4550	2000	2197	4221	918	1029	9507	7207
	17	1150		1000	1800×1450	1850×1632	2400	2000	4950	2000	2401	4617	1012	1135	10679	8034
1.75	6	450		700	1150×1080	1200×1262	1750	1800	3650	1800	1480	2875	575	685	6350	5271
	8	550		800	1300×1100	1350×1282	1900	1800	3950	1800	1611	3134	634	756	6974	5656
	9	600		800	1300×1180	1350×1362	1900	1800	3950	1800	1678	3266	664	792	7293	5855
	10	680		800	1350×1280	1400×1462	1950	1850	4050	1850	1781	3529	733	845	7876	6199
	11	750		800	1350×1350	1400×1532	1950	1900	4050	1900	1834	3650	770	867	8155	6357
	13	900		900	1550×1350	1600×1532	2150	1900	4450	1900	2023	4032	859	968	9330	7172
	15	1000		900	1600×1450	1650×1632	2200	2000	4550	2000	2197	4221	918	1029	9911	7514
	17	1150		1000	1800×1450	1850×1632	2400	2000	4950	2000	2401	4617	1012	1135	11132	8376

EN Code

1.0	6	450	2 Panel Center Opening	700	1150×1080	1200×1262	1750	1800	3650	1800	1480	2875	575	685	5298	4398
	7	525		800	1300×1100	1350×1282	1900	1800	3950	1800	1611	3134	634	756	5819	4719
	8	600		800	1300×1180	1350×1362	1900	1800	3950	1800	1678	3266	664	792	6085	4885
	9	675		800	1350×1280	1400×1462	1950	1850	4050	1850	1781	3529	733	845	6572	5172
	10	800		800	1350×1350	1400×1532	1950	1900	4050	1900	1834	3650	770	867	6805	5305
	12	900		900	1550×1350	1600×1532	2150	1900	4450	1900	2023	4032	859	968	7784	5984
	13	1000		900	1600×1450	1650×1632	2200	2000	4550	2000	2197	4221	918	1029	8269	6269
	16	1150		1000	1800×1450	1850×1632	2400	2000	4950	2000	2401	4617	1012	1135	9289	6989
1.5	6	450		700	1150×1080	1200×1262	1750	1800	3650	1800	1480	2875	575	685	6091	5056
	7	525		800	1300×1100	1350×1282	1900	1800	3950	1800	1611	3134	634	756	6690	5425
	8	600		800	1300×1180	1350×1362	1900	1800	3950	1800	1678	3266	634	792	6996	5616
	9	675		800	1350×1280	1400×1462	1950	1850	4050	1800	1781	3529	733	845	7555	5946
	10	800		800	1350×1350	1400×1532	1950	1900	4050	1850	1834	3650	770	867	7823	6098
	12	900		900	1550×1350	1600×1532	2150	1900	4450	1900	2023	4032	859	968	8949	6880
	13	1000		900	1600×1450	1650×1632	2200	2000	4550	1900	2197	4221	918	1029	9507	7207
	16	1150		1000	1800×1450	1850×1632	2400	2000	4950	2000	2401	4617	1012	1135	10679	8034
1.75	6	450		700	1150×1080	1200×1262	1750	1800	3650	2000	1480	2875	575	685	6350	5271
	7	525		800	1300×1100	1350×1282	1900	1800	3950	1800	1611	3134	634	756	6974	5656
	8	600		800	1300×1180	1350×1362	1900	1800	3950	1800	1678	3266	664	792	7293	5855
	9	675		800	1350×1280	1400×1462	1950	1850	4050	1850	1781	3529	733	845	7876	6199
	10	800		800	1350×1350	1400×1532	1950	1900	4050	1900	1834	3650	770	867	8155	6357
	12	900		900	1550×1350	1600×1532	2150	1900	4450	1900	2023	4032	859	968	9330	7172
	13	1000		900	1600×1450	1650×1632	2200	2000	4550	2000	2197	4221	918	1029	9911	7514
	16	1150		1000	1800×1450	1850×1632	2400	2000	4950	2000	2401	4617	1012	1135	11132	8376

Deep Car

Standard

(Unit: mm)

Speed (m/s)	Capacity		Opening Type	Entrance Opening (mm)	Car Size		Hoistway Size				Top Beam Reaction Load(kg)				Pit Reaction Load(kg)	
	Persons	Load (kg)			Inside	Outside	Simplex		Duplex							
					AN × BN	AS × BS	AH	BH	AH	BH	R1	R2	R3	R4	R5	R6
1.0	6	450	2 Panel Side Opening	800	1100×1100	1150×1331	1700	1900	3550	1900	1593	2880	586	713	5455	4555
	8	550		800	1100×1290	1150×1501	1700	1900	3550	1900	1733	3137	646	786	5985	4885
	9	600		800	1100×1380	1150×1581	1700	1900	3550	1900	1802	3265	675	822	6248	5048
	10	680		800	1100×1550	1150×1751	1700	2050	3550	2050	1987	3440	735	883	6727	5327
	11	750		800	1200×1500	1250×1721	1800	2000	3750	2000	2020	3628	774	917	7022	5522
	13	900		900	1200×1750	1250×1971	1800	2200	3750	2200	2233	3987	888	993	8005	6205
	15	1000		900	1250×1840	1300×2051	1850	2300	3850	2300	2429	4148	938	1062	8481	6481
	17	1150		1000	1300×2000	1350×2211	1900	2450	3950	2450	2680	4464	1035	1154	9456	7156
1.5	6	450		800	1100×1100	1150×1331	1700	1900	3550	1900	1593	2880	586	713	6271	5237
	8	550		800	1100×1290	1150×1501	1700	1900	3550	1900	1733	3137	646	786	6881	5616
	9	600		800	1100×1380	1150×1581	1700	1900	3550	1900	1802	3265	675	822	7183	5804
	10	680		800	1100×1550	1150×1751	1700	2050	3550	2050	1987	3440	735	883	7734	6125
	11	750		800	1200×1500	1250×1721	1800	2000	3750	2000	2020	3628	774	917	8072	6348
	13	900		900	1200×1750	1250×1971	1800	2200	3750	2200	2233	3987	888	993	9202	7133
	15	1000		900	1250×1840	1300×2051	1850	2300	3850	2300	2429	4148	938	1062	9749	7450
	17	1150		1000	1300×2000	1350×2211	1900	2450	3950	2450	2680	4464	1035	1154	10871	8227
1.75	6	450		800	1100×1100	1150×1331	1700	1900	3550	1900	1593	2880	586	713	6538	5459
	8	550		800	1100×1290	1150×1501	1700	1900	3550	1900	1733	3137	646	786	7173	5855
	9	600		800	1100×1380	1150×1581	1700	1900	3550	1900	1802	3265	675	822	7489	6050
	10	680		800	1100×1550	1150×1751	1700	2050	3550	2050	1987	3440	735	883	8063	6385
	11	750		800	1200×1500	1250×1721	1800	2000	3750	2000	2020	3628	774	917	8415	6618
	13	900		900	1200×1750	1250×1971	1800	2200	3750	2200	2233	3987	888	993	9594	7436
	15	1000		900	1250×1840	1300×2051	1850	2300	3850	2300	2429	4148	938	1062	10164	7767
	17	1150		1000	1300×2000	1350×2211	1900	2450	3950	2450	2680	4464	1035	1154	11333	8576

EN Code

1.0	6	450	2 Panel Side Opening	800	1100×1100	1150×1331	1700	1900	3550	1900	1593	2880	586	713	5455	4555
	7	525		800	1100×1290	1150×1501	1700	1900	3550	1900	1733	3137	646	786	5985	4885
	8	600		800	1100×1380	1150×1581	1700	1900	3550	1900	1802	3265	675	822	6248	5048
	9	675		800	1100×1550	1150×1751	1700	2050	3550	2050	1987	3440	735	883	6727	5327
	10	800		800	1200×1500	1250×1721	1800	2000	3750	2000	2020	3628	774	917	7022	5522
	12	900		900	1200×1750	1250×1971	1800	2200	3750	2200	2233	3987	888	993	8005	6205
	13	1000		900	1250×1840	1300×2051	1850	2300	3850	2300	2429	4148	938	1062	8481	6481
	16	1150		1000	1300×2000	1350×2211	1900	2450	3950	2450	2680	4464	1035	1154	9456	7156
1.5	6	450		800	1100×1100	1150×1331	1700	1900	3550	1900	1593	2880	586	713	6271	5237
	7	525		800	1100×1290	1150×1501	1700	1900	3550	1900	1733	3137	646	786	6881	5616
	8	600		800	1100×1380	1150×1581	1700	1900	3550	1900	1802	3265	675	822	7183	5804
	9	675		800	1100×1550	1150×1751	1700	2050	3550	2050	1987	3440	735	883	7734	6125
	10	800		800	1200×1500	1250×1721	1800	2000	3750	2000	2020	3628	774	917	8072	6348
	12	900		900	1200×1750	1250×1971	1800	2200	3750	2200	2233	3987	888	993	9202	7133
	13	1000		900	1250×1840	1300×2051	1850	2300	3850	2300	2429	4148	938	1062	9749	7450
	16	1150		1000	1300×2000	1350×2211	1900	2450	3950	2450	2680	4464	1035	1154	10871	8227
1.75	6	450		800	1100×1100	1150×1331	1700	1900	3550	1900	1593	2880	586	713	6538	5459
	7	525		800	1100×1290	1150×1501	1700	1900	3550	1900	1733	3137	646	786	7173	5855
	8	600		800	1100×1380	1150×1581	1700	1900	3550	1900	1802	3265	675	822	7489	6050
	9	675		800	1100×1550	1150×1751	1700	2050	3550	2050	1987	3440	735	883	8063	6385
	10	800		800	1200×1500	1250×1721	1800	2000	3750	2000	2020	3628	774	917	8415	6618
	12	900		900	1200×1750	1250×1971	1800	2200	3750	2200	2233	3987	888	993	9594	7436
	13	1000		900	1250×1840	1300×2051	1850	2300	3850	2300	2429	4148	938	1062	10164	7767
	16	1150		1000	1300×2000	1350×2211	1900	2450	3950	2450	2680	4464	1035	1154	11333	8576

TECHNICAL DATA

Power Supply Plan

(Main Power : 380V)

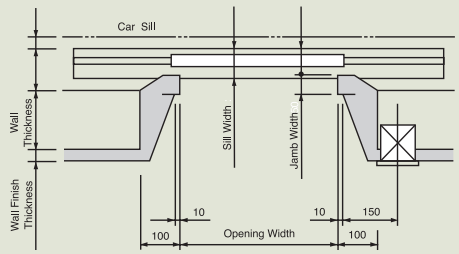
Speed (m/s)	Capacity		Motor Capa. (kW)	MCCB Capacity of Building(A)		Power Supply Capacity(kVA)		Lead-in Wire Size(㎟)		Earth Wire Size(㎟)		Heat Output (kcal / H)	Starting Power (kVA/set)
	Persons	Load(kg)		Simplex	Duplex	Simplex	Duplex	Simplex	Duplex	Simplex	Duplex		
1.0	6	450	3.7	20	30	5.3	10.6	4	6	4	6	679	7.1
	8	550	3.7	20	30	6.5	12.9	4	6	4	6	830	8.7
	9	600	3.7	20	30	6.9	13.9	4	6	4	6	900	9.3
	10	680	4.6	20	30	7.2	14.4	4	6	4	6	1020	9.6
	11	750	4.6	20	40	7.6	15.2	4	6	4	6	1130	10.1
	13	900	6.2	20	40	8.8	17.7	4	6	4	6	1350	11.9
	15	1000	6.2	30	50	9.7	19.4	4	10	4	6	1500	13.0
	17	1150	7.1	30	50	11.0	22.0	4	10	4	6	1725	15.0
1.5	6	450	5.6	20	30	6.9	13.8	4	10	4	6	1013	11.1
	8	550	5.6	20	40	8.5	17.1	4	10	4	6	1240	13.8
	9	600	5.6	20	40	9.2	18.4	4	10	4	6	1350	14.7
	10	680	6.9	30	50	10.0	20.0	4	10	4	6	1530	16.0
	11	750	6.9	30	50	10.6	21.3	6	10	6	6	1690	16.9
	13	900	9.2	40	60	12.3	24.6	6	10	6	6	2030	19.7
	15	1000	9.2	40	60	13.5	27.1	6	16	6	10	2250	21.5
	17	1150	10.6	40	75	15.4	30.8	10	16	6	6	2588	24.7
1.75	6	450	6.5	30	50	7.8	15.7	6	10	4	6	1185	13.2
	8	550	6.5	30	50	9.7	19.3	6	10	6	6	1450	16.4
	9	600	6.5	30	50	10.4	20.9	6	10	6	6	1580	17.6
	10	680	8.1	30	50	11.4	22.8	6	10	6	6	1790	19.1
	11	750	8.1	40	60	12.1	24.2	6	10	6	6	1970	20.2
	13	900	11.0	40	75	14.0	28.0	6	16	6	10	2370	23.5
	15	1000	11.0	40	75	15.4	30.9	10	16	6	10	2630	25.6
	17	1150	12.5	40	100	17.6	35.2	10	25	6	10	3025	29.5

※The wire size should be calculated considering the voltage drop when travel exceeds 50m.

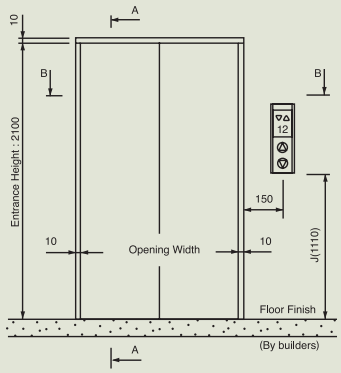
Entrance Details : Other floor

Narrow Jamb without Transom Panel

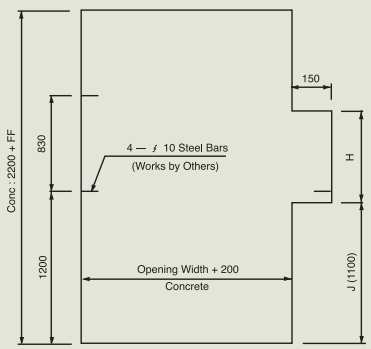
Section B-B



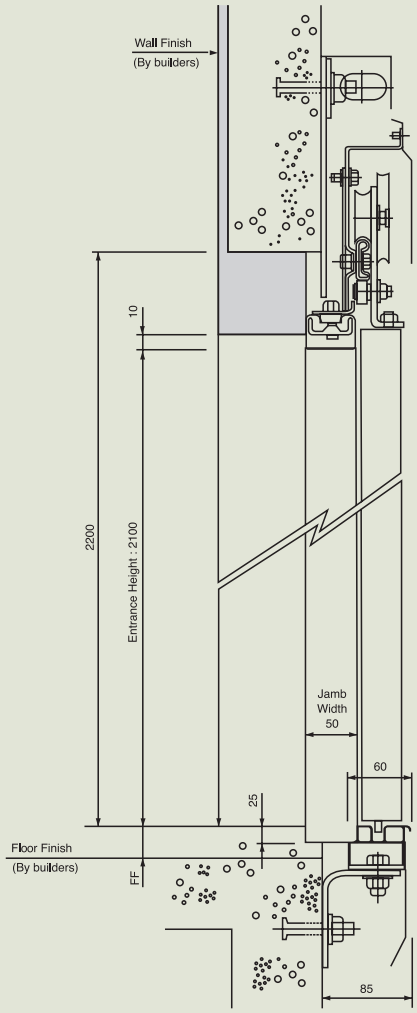
Front View of Entrance



Building Structure Plan



Section A-A



Note

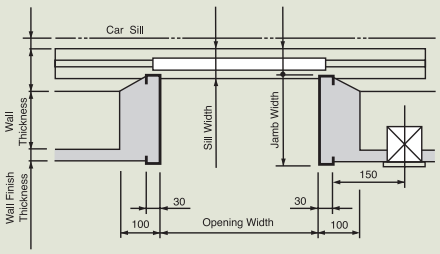
1. "H"dimension in building structure plan depends upon the type of hall indicator selected.
2. "J"dimension depends upon governing code requirement for height(above floor) of hall buttons.
3. Unit : mm

TECHNICAL DATA

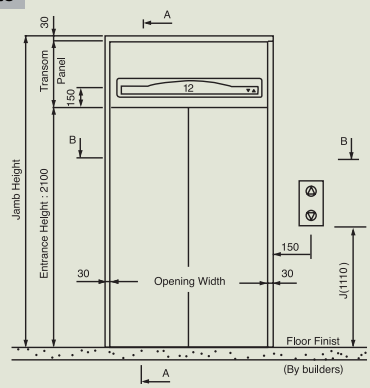
Entrance Details : Other floor

S-Type Wide Jamb with Transom Panel(with accentric line)

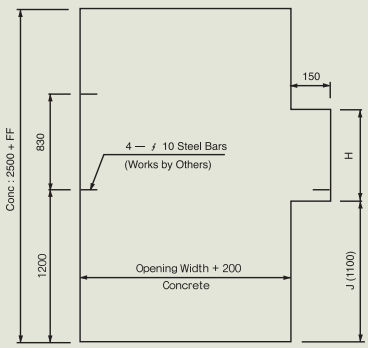
Section B-B



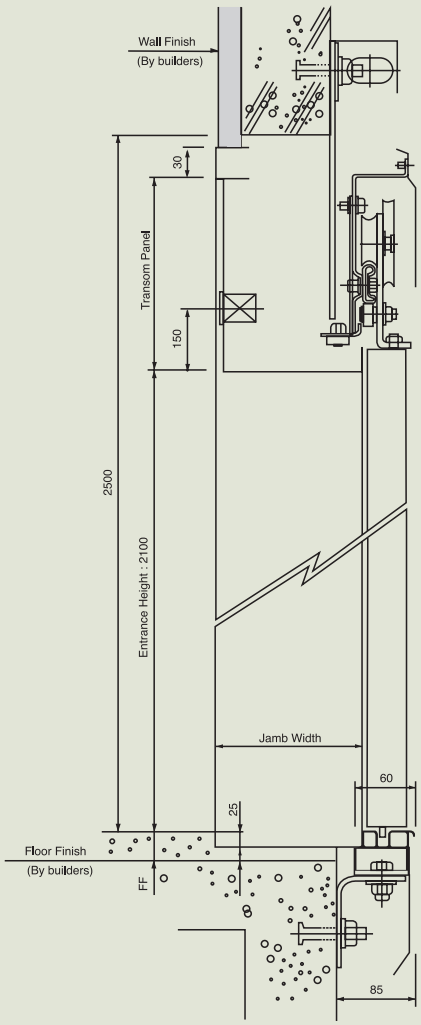
Front View of Entrance



Building Structure Plan



Section A-A



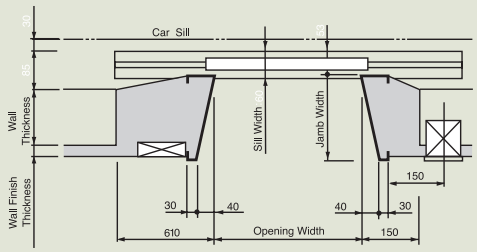
Note

1. "H" dimension in building structure plan depends upon the type of hall indicator selected.
2. "J" dimension depends upon governing code requirement for height(above floor) of hall buttons.
3. Unit : mm

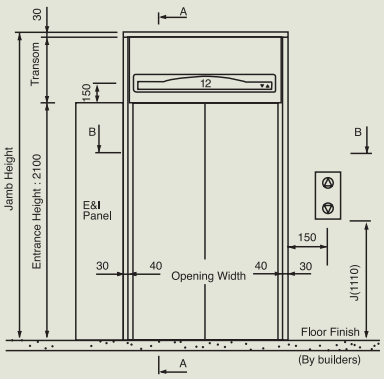
Entrance Details : Top floor

T-Type Wide Jamb with Transom Panel(with accentric line)

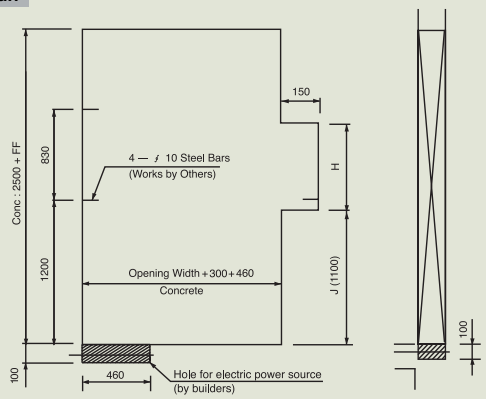
Section B-B



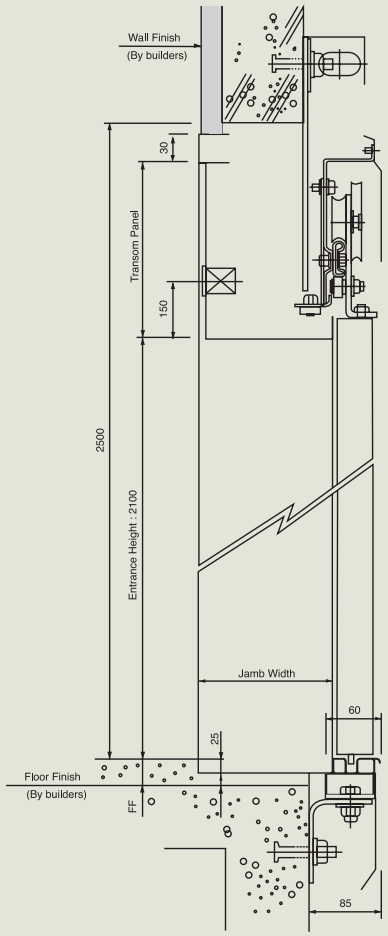
Front View of Entrance



Building Structure Plan



Section A-A



Note

1. "H"dimension in building structure plan depends upon the type of hall indicator selected.
2. "J"dimension depends upon governing code requirement for height(above floor) of hall buttons.
3. Unit : mm

TECHNICAL DATA

Technical Features

● Standard ○ Option

Features	Description	
Attendant Operation	The operating mode of an elevator can be changed from the normal automatic operation to the attendant service by an attendant switch.	●
Independent Operation	Key switch in the car operating panel will cancel any existing car calls and hold the door open at the landing position. During independent operation, the car will respond only to car calls.	●
Back-up operation	When the electrical transmission device between the hall call and control panel begins to operate in an abnormal condition and it lasts for some time, the elevator control device is converted to back-up operation automatically. Then, the elevator moves in sequence up and down repeatedly from top to bottom floor to service every other floor which is in normal condition.	●
Safe Drive Operation	When a car stops between floors due to mechanical malfunction, it will descend to the nearest floor at a low speed and hold the doors open after checking all safety measures.	●
Car Call Cancellation	Allows cancellation of an incorrectly registered car call. For example, if you press the button for the wrong floor, you can cancel by pressing the same floor button again.	●
Automatic Turn-Off of Car Light & Fan	Car illumination and fan are turned off automatically in case there is no hall call or car call; this saves energy.	●
Automatic Bypass	A fully-loaded car (More than 80% of rated load) bypasses hall calls in order to maintain maximum operational efficiency.	●
Overload Holding Stop (110% of rated load)	When the number of passengers exceeds the normal capacity, a buzzer sounds and the elevator remains stopped at that floor. When the excessive number of passengers disembark, the buzzer stops, the elevator doors close, and operation continues.	●
Detection of Jammed Hall Button	If a hall button is jammed mechanically, the hall call will be automatically bypassed after being served once, until the program is resolved.	●
Car Door Safety Edge	Extending the full height of the car door, this device causes the doors to return to the fully open position should the door encounter a person or obstacle while closing.	●
Micro Levelling	An automatic two way leveling device is provided to maintain the elevator car level with the landing, regardless of elevator load or direction of travel.	●
N-Plex Operation	It can control up to 4 sets of elevators to optimize allocation of hall calls.	○
Non-Stop Operation	Specific floors which are memorized in control panel can be set to disable using switch on car operating panel or in security room.	○
Parking Operation	The elevator can be automatically parked at the predetermined floor with its doors closed, and the lights and ventilation will be turned off as well.	○
VIP Operation	The specified elevator is controlled by the special call buttons provided only for VIP elevator	○
Emergency Power Operation	If normal building power supply fails and the building provides emergency power to the controller(s), one elevator at a time will proceed to the lowest landing where it will stop with doors open and with all of its power and operating circuits in an inoperative standby condition.	○
Fire return operation	In case of fire, a fireman can use the elevator which is stopped at the specified floor in order to support firemen for fire-fighting.	○
Firemen Operation	In case of fire, a firemen can use the elevator which is stopped at the specified floor in order to support firemen for fire-fighting.	○
Anti-nuisance Operation	In case of substantial difference between the number of calls registered on the car operating panel and actual load in the elevator, the elevator prevents unnecessary operation by cancelling all registered calls when it arrives at the nearest floor.	○
Door Nudging	When the doors remain open for more than the fixed door open time, this feature closes the doors at a reduced closing speed with the buzzer sounding.	○
Voice Synthesizer	This system provides riding passengers with audio information about car operation such as direction of travel, landing floor, etc.	○
Door Photo Sensor	The doors reverse to fully open position if the light ray unit detects an obstacle when the doors are closing.	○

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